

39. (Amended) A computer program product, comprising:

a. a memory medium;

b. a computer program, stored on said memory medium, said computer program comprising instructions for allocating communications bandwidth to a plurality of communications connections based on at least one set of priorities wherein said set of priorities includes at least one of: how fast user connections can receive information, which part of a document is being transmitted, and stored indicia indicating the importance of the document.

REMARKS

Claims 23-25, 27-31 and 33-39 are pending. By this amendment, claims 26 and 32 are cancelled and claims 31, 34, 36 and 39 are amended. No new matter is added.

Claims 31 and 33-39 define patentable subject matter

The Office Action rejects claims 26 and 31-39 under 35 USC 102(b) over Chen et al. ("Threshold-Based Admission Control Policies for Multimedia Servers"; The Computer Journal, Vol. 39, No. 9, 1996, hereinafter "Chen"). This rejection is moot regarding cancelled claims 26 and 32 and respectfully traversed regarding the remaining claims.

In particular, Applicant asserts that Chen does not teach or suggest at least a method of operating a server on a network, including providing an element for allocating communications bandwidth that a server provides to a plurality of user stations connected to the server based on at least one set of priorities, wherein the set of priorities includes at least one of type of information retrieved, how fast user connections can receive information, which part of a document is being transmitted and stored indicia indicating importance of

the document, as recited in independent claim 31 and similarly in independent claims 36, 38 and 39.

Chen discloses three threshold based admissions policies. The "free threshold" policy is simply first come, first serve [p 759, section 3.1], that is, available chunks of bandwidth (slots) are allocated to newly arriving requests for communications regardless of priority.

The fixed threshold policy divides bandwidth into two sets of bandwidth chunks. One set is allocated to high priority users and the other set of chunks of bandwidth is allocated to everyone else [p 760, col. 2, section 3.2].

The dynamic threshold policy creates three sets of chunks of bandwidth: one dedicated to high priority users, one dedicated to low priority users and one in which chunks of bandwidth can be allocated to either high priority or low priority users. The number of chunks allocated to either high or low priority users from this third set is determined by the authors optimization routine.

Unlike the present invention, the size of a chunk of bandwidth does not vary in Chen and does not vary based on any of "type of information", "how fast user connections can receive information", "which part of a document is being retrieved" and "stored indicia indicating importance."

While the Office Action asserts that the "input characteristics of client requests" of Chen suggests "indicia indicating importance of the document" (see generally, page 2, last paragraph), nowhere does Chen support the assertion "input characteristics of client requests" suggests "indicia indicating importance of the document". In fact, Table 1 of Chen (see generally, page 760), which shows every factor that can affect priority, includes no

entry reasonably construed as "indicia indicating importance of the document". Thus, Chen does not teach or suggest each and every feature of the claimed invention.

Therefore, independent claims 31, 36, 38 and 39 define patentable subject matter, claims 33-35 and 37-39 define patentable subject matter by virtue of their dependency as well as for the additional features they recite. Accordingly, withdrawal of the rejection of claims 31 and 33-39 under 35 USC 102(b) and 103(a) is respectfully requested.

Claims 27-30 define patentable subject matter

The Office Action rejects claims 26-28 under 35 USC 103(a) over Chen, and further rejects claims 29-30 under 35 USC 103(a) over Chen in view of Waldron, III (U.S. Patent No. 5,428,789). These rejections are moot regarding cancelled claim 26 and respectfully traversed regarding the remaining claims.

In particular, Applicant asserts that it would have been obvious at the time of the invention to modify Chen to teach or suggest at least a computer system that allocates bandwidth based on at least stored indicia indicating importance of a document being retrieved by a user, as recited in independent claim 27. Furthermore, Applicant asserts that it would have been obvious at the time of the invention to modify Chen to teach or suggest at least a computer system that allocates bandwidth based on at least priorities based on the state of application processes running on a processor, as recited in independent claim 28.

Regarding claim 28, although the Office Action asserts that Chen discloses allocating bandwidth based on stored indicia indicating importance of a document being retrieved by a user by stating that "input characteristics . . . inherently change the state of application processes running on the server processor" (see generally, page 4, lines 7-10), nowhere does Chen disclose this and Table 1 of Chen, which enumerates all relevant

variables, does not support the Office Action's assertion. Accordingly, Chen does not teach or suggest each and every feature of independent claim 28.

Waldron discloses a method and apparatus for optimizing user response time in a priority preemptive operating system. See, Abstract, for example. Waldron does not teach or suggest at least allocating bandwidth based on stored indicia indicating importance of a document being retrieved, nor does the Office Action assert such. Thus, Waldron does not provide for the above-mentioned deficiencies of Chen.

Regarding claim 27, although the Office Action asserts that, in the absence of any actual teaching, that it nonetheless would have been obvious to modify Chen to prioritize based on stored indicia indicating importance of a document being retrieved by a user so that "the most important documents can be downloaded fastest in case of a connection failure", nowhere does Chen teach, suggest or even appreciate such an advantage. Thus, Chen does not teach or suggest each and every feature of independent claim 27.

The Office Action does not establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the prior art references must not only teach or suggest all of the claim limitations, but there must be some motivation, either with the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the reference teachings. See, MPEP Section 2143, for example. As discussed above, Chen does not teach or suggest at least priorities based on the state of application processes running on a processor and/or stored indicia indicating importance of a document being retrieved by a user, as recited in independent claims 28 and 27 respectively. Furthermore, as discussed above, there is no motivation provided by the applied references

or shown by the Office Action to be in the knowledge generally available to one of ordinary skill in the art, to modify Chen accordingly.

Therefore, independent claims 27 and 28 define patentable subject matter. Claims 29 and 30 define patentable subject matter by virtue of their dependency as well as for the additional features they recite. Accordingly, withdrawal of the rejection of claims 27-30 under 35 USC 103(a) and 103(a) is respectfully requested.

Claims 23 and 24 define patentable subject matter

The Office Action rejected claims 23 and 24 under 35 USC 103(a) over Chen in view of Gotwald (U.S. Patent No. 5,987,518). This rejection is respectfully traversed.

In particular, Applicant asserts that it would have been obvious at the time of the invention to modify Chen using the teachings Gotwald to teach or suggest at least a computer apparatus that uses priorities based on type of information being retrieved by user stations and/or how fast user connections can receive information, as recited in independent claims 23 and 24 respectively.

Chen discloses the methods and systems as discussed above. Chen does not teach or suggest at least priorities based on type of information being retrieved by user stations and/or how fast user connections can receive information, nor does the Office Action assert such. Thus, Chen does not teach or suggest each and every feature of the claimed invention.

Gotwald discloses a method and apparatus for communicating internet protocol data over broadband MPEG channels. See, Abstract, for example. Gotwald does not teach or suggest at least a set of priorities that includes at least one priority based on type of information being retrieved by user stations and/or how fast user connections can receive information.

Although the Office Action asserts that Gotwald discloses priorities based on type of information being retrieved by user stations and/or how fast user connections can receive information (see generally, page 6, lines 8-18 of the Office Action), by equating the terms "data type" and "connection type" to "type of information being retrieved by user stations" and "how fast user connections can receive information" respectively, neither of the terms "data type" or "connection type" is appropriately applied.

To the contrary, the term "data type" as used in Gotwald is a misnomer in that it does not refer to different forms of data, such as text or image data, but to transmission protocol. For example, as is explicitly explained in Gotwald, data can be transferred according to TCP, FTP and UDP can be assigned various priorities. See, col. 5, lines 7-16, for example. Accordingly, the "data type" of Gotwald refers explicitly to transmission protocol, as opposed to any data type within the ordinary meaning of the term.

Similarly, while Gotwald discloses that priority can be based on the "connection type" (see, col. 4, lines 60-64), nowhere is this term remotely related to how fast user connections can receive information. To the contrary, the term "connection type" refers exclusively to protocols, such as file transfer protocol (FTP) and Telnet (see, col. 5, lines 16-21), as opposed to being related to data rates. Thus, Gotwald does not provide for the above-mentioned deficiencies of Chen.

The Office Action does not establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the prior art references must not only teach or suggest all of the claim limitations, but there must be some motivation, either with the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the reference teachings. See, MPEP Section 2143, for example. As

discussed above, the references do not teach each and every feature of the claimed invention. Furthermore, there is no motivation, either in the references themselves or in the knowledge of one of ordinary skill in the art, to modify Chen using the teachings of Gotwald.

Therefore, independent claims 23 and 24 define patentable subject matter. Accordingly, withdrawal of the rejection of claims 23 and 24 under 35 USC 103(a) and 103(a) is respectfully requested.

Claim 25 defines patentable subject matter

The Office Action rejects claims; rejects claim 25 under 35 USC 103(a) over Chen in view of Tognazzini et al. (U.S. Patent No. 5,731,805). This rejection is respectfully traversed.

In particular, Applicant asserts that it would not have been obvious at the time of the invention to modify Chen using the teachings of Tognazzini to teach or suggest at least a computer apparatus that allocates bandwidth based on which part of a document is being transmitted, as recited in independent claim 25.

Chen discloses the methods and systems as disclosed above. Chen does not teach or suggest at least bandwidth allocation based on which part of a document is being transmitted, nor does the Office Action assert such.

Tognazzini discloses a method and apparatus for expanding computer displayed information that interest a computer user based on a gaze-tracking device that monitors where a user looks on a display. See, Abstract, for example. Tognazzini does not teach or suggest at least bandwidth allocation based on which part of a document is being transmitted. Although the Office Action asserts that Tognazzini discloses prioritizing

allocated bandwidth based on which part of a document it is being transmitted (see generally, page 7, last paragraph), Tognazzini does not allocate bandwidth based on which part of a document is being transmitted.

To the contrary, Tognazzini is directed to adjusting bandwidth based on an eye-tracked position of a user as opposed to adjusting bandwidth based upon any particular portion of a document. That is, any form of bandwidth allocation that occurs in Tognazzini is a result only due to the interest of a user. For example, if a particular document downloaded has an area containing a partially downloaded image, the Tognazzini device can increase allocated bandwidth only if a user shows some interest in that image area. See, column 12, lines 14-19, for example. Thus, Tognazzini does not provide for the above-mentioned deficiencies of Chen.

Accordingly, the Office Action does not establish a *prima facie* case of obviousness as neither Chen and Tognazzini, individually or in combination, teach each and every feature of the claimed invention. Furthermore, there is no motivation either in the applied references to modify Chen using the teachings of Tognazzini. While the Office Action asserts that one of ordinary skill in the art would have recognized the desirability and advantages of modifying Chen using the teachings of Tognazzini (see generally, page 7, last paragraph), nowhere do the applied references disclose such advantages nor were such advantages appreciated at the time of the invention.

Therefore, independent claim 25 defines patentable subject matter. Accordingly, withdrawal of the rejection of claim 25 under 35 USC 103(a) and 103(a) is respectfully requested.

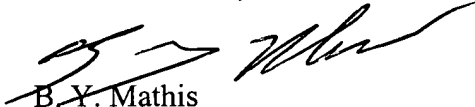
Conclusion

For the reasons given above, Applicant believes that this application is in condition for allowance an Applicant requests that the Examiner give the application favorable consideration and permit it to issue as a patent. However, if the Examiner believes that the application can be put in even better condition for allowance, the Examiner is invited to contact Applicant's representative listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 26 and 32 have been cancelled without prejudice or disclaimer.

Claims 31, 34, 36, 38 and 39 as follows:

31. (Amended) A method of operating a server on a network, comprising the step of:

a. providing an element for allocating communications bandwidth that a server provides to a plurality of user stations connected to said server based on at least one set of priorities; wherein said set of priorities includes at least one of: type of information being retrieved, how fast user connections can receive information, which part of a document is being transmitted, and stored indicia indicating importance of the document.

34. (Amended) The method of claim [32] 31 in which bandwidth allocation is recalculated on an event driven basis.

36. (Amended) A method of controlling communications by a process running on a processor connected to a network, comprising the step of:

a. providing an element for allocating communications bandwidth to a plurality of connections from said network to said processor based on at least one set of priorities; wherein said set of priorities includes at least one of: type of information being retrieved, how fast user connections can receive information, which part of a document is being transmitted, and stored indicia indicating importance of the document.

38. (Amended) A computer program product, comprising:

a. a memory medium;

b. a computer program, stored on said memory medium, said computer program comprising instructions for allocating communications bandwidth provided by a server to a plurality of user connections based on at least one set of priorities; wherein said set of priorities includes at least one of: type of information being retrieved, how fast user connections can receive information, which part of a document is being transmitted, and stored indicia indicating importance of the document.

39. (Amended) A computer program product, comprising:

a. a memory medium;

b. a computer program, stored on said memory medium, said computer program comprising instructions for allocating communications bandwidth to a plurality of communications connections based on at least one set of priorities wherein said set of priorities includes at least one of: how fast user connections can receive information, which part of a document is being transmitted, [user identity] and stored indicia indicating the importance of the document.